

$K_2(1770)$

$$I(J^P) = \frac{1}{2}(2^-)$$

See our mini-review in the 2004 edition of this *Review*, PDG 04.

NODE=M023

NODE=M023

NODE=M023M

NODE=M023M

 $K_2(1770)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
1773± 8		¹ ASTON 93	LASS		11 $K^- p \rightarrow K^- \omega p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
1743±15		TIKHOMIROV 03	SPEC		40.0 $\pi^- C \rightarrow$ $K_S^0 K_S^0 K_L^0 X$
1810±20		FRAME 86	OMEG +		13 $K^+ p \rightarrow \phi K^+ p$
~ 1730		ARMSTRONG 83	OMEG -		18.5 $K^- p \rightarrow 3K p$
~ 1780		² DAUM 81C	CNTR -		63 $K^- p \rightarrow K^- 2\pi p$
1710±15	60	CHUNG 74	HBC -		7.3 $K^- p \rightarrow K^- \omega p$
1767± 6		BLIEDEN 72	MMS -		11-16 $K^- p$
1730±20	306	³ FIRESTONE 72B	DBC +		12 $K^+ d$
1765±40		⁴ COLLEY 71	HBC +		10 $K^+ p \rightarrow K 2\pi N$
1740		DENEGRI 71	DBC -		12.6 $K^- d \rightarrow \bar{K} 2\pi d$
1745±20		AGUILAR-...	70C HBC -		4.6 $K^- p$
1780±15		BARTSCH 70C	HBC -		10.1 $K^- p$
1760±15		LUDLAM 70	HBC -		12.6 $K^- p$

¹ From a partial wave analysis of the $K^- \omega$ system.² From a partial wave analysis of the $K^- 2\pi$ system.³ Produced in conjunction with excited deuteron.⁴ Systematic errors added correspond to spread of different fits.

NODE=M023M;LINKAGE=A

NODE=M023M;LINKAGE=B

NODE=M023M;LINKAGE=P

NODE=M023M;LINKAGE=X

 $K_2(1770)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
186±14		⁵ ASTON 93	LASS		11 $K^- p \rightarrow K^- \omega p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
147±70		TIKHOMIROV 03	SPEC		40.0 $\pi^- C \rightarrow$ $K_S^0 K_S^0 K_L^0 X$
140±40		FRAME 86	OMEG +		13 $K^+ p \rightarrow \phi K^+ p$
~ 220		ARMSTRONG 83	OMEG -		18.5 $K^- p \rightarrow 3K p$
~ 210		⁶ DAUM 81C	CNTR -		63 $K^- p \rightarrow K^- 2\pi p$
110±50	60	CHUNG 74	HBC -		7.3 $K^- p \rightarrow K^- \omega p$
100±26		BLIEDEN 72	MMS -		11-16 $K^- p$
210±30	306	⁷ FIRESTONE 72B	DBC +		12 $K^+ d$
90±70		⁸ COLLEY 71	HBC +		10 $K^+ p \rightarrow K 2\pi N$
130		DENEGRI 71	DBC -		12.6 $K^- d \rightarrow \bar{K} 2\pi d$
100±50		AGUILAR-...	70C HBC -		4.6 $K^- p$
138±40		BARTSCH 70C	HBC -		10.1 $K^- p$
50 ⁺⁴⁰ -20		LUDLAM 70	HBC -		12.6 $K^- p$

⁵ From a partial wave analysis of the $K^- \omega$ system.⁶ From a partial wave analysis of the $K^- 2\pi$ system.⁷ Produced in conjunction with excited deuteron.⁸ Systematic errors added correspond to spread of different fits.

NODE=M023W

NODE=M023W

NODE=M023W;LINKAGE=B

NODE=M023W;LINKAGE=C

NODE=M023W;LINKAGE=P

NODE=M023W;LINKAGE=X

 $K_2(1770)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K \pi \pi$	
Γ_2 $K_2^*(1430) \pi$	dominant
Γ_3 $K^*(892) \pi$	seen
Γ_4 $K f_2(1270)$	seen
Γ_5 $K f_0(980)$	
Γ_6 $K \phi$	seen
Γ_7 $K \omega$	seen

NODE=M023215;NODE=M023

DESIG=1;OUR EST;→ UNCHECKED ←

DESIG=2;OUR EST;→ UNCHECKED ←

DESIG=4;OUR EST;→ UNCHECKED ←

DESIG=9;OUR EST;→ UNCHECKED ←

DESIG=11

DESIG=10

DESIG=8

$K_2(1770)$ BRANCHING RATIOS

NODE=M023220

 $\Gamma(K_2^*(1430)\pi)/\Gamma(K\pi\pi)$ **Γ_2/Γ_1** $(K_2^*(1430) \rightarrow K\pi)$

NODE=M023R1

NODE=M023R1

NODE=M023R1

VALUE	DOCUMENT ID	TECN	CHG	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

~ 0.03	DAUM	81C	CNTR	63 $K^- p \rightarrow K^- 2\pi p$
~ 1.0	⁹ FIRESTONE	72B	DBC	+ 12 $K^+ d$
< 1.0	COLLEY	71	HBC	10 $K^+ p$
0.2 ± 0.2	AGUILAR-...	70C	HBC	- 4.6 $K^- p$
< 1.0	BARTSCH	70C	HBC	- 10.1 $K^- p$
1.0	BARBARO-...	69	HBC	+ 12.0 $K^+ p$

⁹ Produced in conjunction with excited deuteron.

NODE=M023R1;LINKAGE=P

 $\Gamma(K^*(892)\pi)/\Gamma(K\pi\pi)$ **Γ_3/Γ_1**

VALUE	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

~ 0.23	DAUM	81C	CNTR	63 $K^- p \rightarrow K^- 2\pi p$
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NODE=M023R3

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 $\Gamma(K f_2(1270))/\Gamma(K\pi\pi)$ **Γ_4/Γ_1** $(f_2(1270) \rightarrow \pi\pi)$

VALUE	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

~ 0.74	DAUM	81C	CNTR	63 $K^- p \rightarrow K^- 2\pi p$
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NODE=M023R4

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NODE=M023R4

 $\Gamma(K f_0(980))/\Gamma_{total}$ **Γ_5/Γ**

VALUE	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

possibly seen

TIKHOMIROV 03 SPEC 40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$

NODE=M023R6

NODE=M023R6

 $\Gamma(K\phi)/\Gamma_{total}$ **Γ_6/Γ**

VALUE	DOCUMENT ID	TECN	CHG	COMMENT
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seen	ARMSTRONG	83	OMEG	- 18.5 $K^- p \rightarrow K^- \phi N$
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NODE=M023R5

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 $\Gamma(K\omega)/\Gamma_{total}$ **Γ_7/Γ**

VALUE	DOCUMENT ID	TECN	CHG	COMMENT
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seen	OTTER	81	HBC	± 8.25,10,16 $K^\pm p$
seen	CHUNG	74	HBC	- 7.3 $K^- p \rightarrow K^- \omega p$

NODE=M023R2

NODE=M023R2

 $K_2(1770)$ REFERENCES

NODE=M023

PDG	04	PL B592 1	S. Eidelman <i>et al.</i>	(PDG Collab.)
TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov <i>et al.</i>	
		Translated from YAF 66 860.		
ASTON	93	PL B308 186	D. Aston <i>et al.</i>	(SLAC, NAGO, CINC, INUS)
FRAME	86	NP B276 667	D. Frame <i>et al.</i>	(GLAS)
ARMSTRONG	83	NP B221 1	T.A. Armstrong <i>et al.</i>	(BARI, BIRM, CERN+)
DAUM	81C	NP B187 1	C. Daum <i>et al.</i>	(AMST, CERN, CRAC, MPIM+)
OTTER	81	NP B181 1	G. Otter	(AACH3, BERL, LOIC, VIEN, BIRM+)
CHUNG	74	PL 51B 413	S.U. Chung <i>et al.</i>	(BNL)
BLIEDEN	72	PL 39B 668	H.R. Blieden <i>et al.</i>	(STON, NEAS)
FIRESTONE	72B	PR D5 505	A. Firestone <i>et al.</i>	(LBL)
COLLEY	71	NP B26 71	D.C. Colley <i>et al.</i>	(BIRM, GLAS)
DENEGRI	71	NP B28 13	D. Denegri <i>et al.</i>	(JHU) JP
AGUILAR-...	70C	PRL 25 54	M. Aguilar-Benitez <i>et al.</i>	(BNL)
BARTSCH	70C	PL 33B 186	J. Bartsch <i>et al.</i>	(AACH, BERL, CERN+)
LUDLAM	70	PR D2 1234	T. Ludlam, J. Sandweiss, A.J. Slaughter	(YALE)
BARBARO-...	69	PRL 22 1207	A. Barbaro-Galtieri <i>et al.</i>	(LRL)

REFID=49653

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